

## Lecture Module - Introduction

ME3023 - Measurements in Mechanical Systems

Mechanical Engineering

Tennessee Technological University

### Topic 3 - Experimental Test Plan

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- Parameter Design Plan
- System and Tolerance Design Plan
- Data Reduction Design Plan
- Experimental Design Strategies

# Parameter Design Plan

**Parameter Design Plan:** Determine the test objective and identify the process variables and parameters and a means for their control.

Ask:

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Text: Theory and Design of Mech. Meas.

# System and Tolerance Design Plan

**System and Tolerance Design Plan:** Select a measurement technique, equipment, and test procedure based on some preconceived tolerance limits for error.

Ask:

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Text: Theory and Design of Mech. Meas.

# Data Reduction Design Plan

**Data Reduction Design Plan:** Plan how to analyze, present, and use the anticipated data.

Ask:

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Text: Theory and Design of Mech. Meas.

# Experimental Design Strategies

- Randomized Tests
- Repetition and Replication.
- Concomitant Methods